NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

☐ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.

☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).

☒ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).

☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."

☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).

☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).

☐ 7. Other: _____

Applicant Must Provide:

☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".

☐ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.

☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216
For CRF Submission Help, call (703) 308-4212
PatentIn Software Program Support (SIRA)
    Technical Assistance...703-287-0200
    To Purchase PatentIn Software.......................703-306-2600

PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR RESPONSE

K.
Shahnan-Shah

RAW SEQUENCE LISTING   DATE: 07/02/2001
PATENT APPLICATION: US/09/446,677B   TIME: 14:51:17

Input Set : **A:\BIRKELUND1.txt**
Output Set: **N:\CRF3\07022001\I446677B.raw**

ENTERED

```
         SEQUENCE LISTING
  3 (1) GENERAL INFORMATION:
  5      (i) APPLICANT: BIRKELUND, Svend
  6                     CHRISTIANSEN, Gunna
  7                     HEBSGAARD PEDERSEN, Anna-Sofie
  8                     MYGIND, Per
  9                     KNUDSEN, Katrine
 11     (ii) TITLE OF INVENTION: SURFACE EXPOSED PROTEINS FROM CHLAMYDIA
 12                              PNEUMONIAE
 14    (iii) NUMBER OF SEQUENCES: 30
 16     (iv) CORRESPONDENCE ADDRESS:
 17          (A) ADDRESSEE: BROWDY AND NEIMARK, P.L.L.C.
 18          (B) STREET: 624 Ninth Street, N.W., Suite 300
 19          (C) CITY: Washington
 20          (D) STATE: D.C.
 21          (E) COUNTRY: USA
 22          (F) ZIP: 20001
 24      (v) COMPUTER READABLE FORM:
 25          (A) MEDIUM TYPE: Floppy disk
 26          (B) COMPUTER: IBM PC compatible
 27          (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 28          (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
 30     (vi) CURRENT APPLICATION DATA:
C-->31          (A) APPLICATION NUMBER: US/09/446,677B
C-->32          (B) FILING DATE: 24-Mar-2000
C-->38    (vii) PRIOR APPLICATION DATA:
 35          (A) APPLICATION NUMBER: PCT/DK98/00266
 36          (B) FILING DATE: 19-JUN-1998
 39          (A) APPLICATION NUMBER: DK 0744/97
 40          (B) FILING DATE: 23-JUN-1997
 42   (viii) ATTORNEY/AGENT INFORMATION:
 43          (A) NAME: COOPER, Iver P.
 44          (B) REGISTRATION NUMBER: 28,005
 45          (C) REFERENCE/DOCKET NUMBER: BIRKELUND=1
 47     (ix) TELECOMMUNICATION INFORMATION:
 48          (A) TELEPHONE: 202-628-5197
 49          (B) TELEFAX: 202-737-3528
 51 (2) INFORMATION FOR SEQ ID NO: 1:
 53      (i) SEQUENCE CHARACTERISTICS:
 54          (A) LENGTH: 3200 base pairs
 55          (B) TYPE: nucleic acid
 56          (C) STRANDEDNESS: single
 57          (D) TOPOLOGY: linear
 59     (ii) MOLECULE TYPE: cDNA
 61     (ix) FEATURE:
 62          (A) NAME/KEY: Coding Sequence
 63          (B) LOCATION: 205...2988
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RAW SEQUENCE LISTING   DATE: 07/02/2001
PATENT APPLICATION: US/09/446,677B   TIME: 14:51:17

Input Set : A:\BIRKELUND1.txt
Output Set: N:\CRF3\07022001\I446677B.raw

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64          (D) OTHER INFORMATION:
66     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
68 CAATGTCGAA GAGAGCACTA ACCAGGAAAA TTGCGATTTC ATAAACCCAC TTTATTATTA    60
69 AATTCTTACT TGCGTCATAT AAAATAGAAA ACTCAGAGAG TCAAGATAAA AATTCTTGAC   120
70 AGCTGTTTTG TCATCTTTAA CTTGATTTAC TTATTTTGTT TCTATATTGA TGCGAATAGT   180
71 TCTCTAAAAA ACAAAAGCAT TACC ATG AAG ACT TCG ATT CCT TGG GTT TTA      231
72                          Met Lys Thr Ser Ile Pro Trp Val Leu
73                           1               5
75 GTT TCC TCC GTG TTA GCT TTC TCA TGT CAC CTA CAG TCA CTA GCT AAC     279
76 Val Ser Ser Val Leu Ala Phe Ser Cys His Leu Gln Ser Leu Ala Asn
77 10                  15                  20                  25
79 GAG GAA CTT TTA TCA CCT GAT GAT AGC TTT AAT GGA AAT ATC GAT TCA     327
80 Glu Glu Leu Leu Ser Pro Asp Asp Ser Phe Asn Gly Asn Ile Asp Ser
81                  30                  35                  40
83 GGA ACG TTT ACT CCA AAA ACT TCA GCC ACA ACA TAT TCT CTA ACA GGA     375
84 Gly Thr Phe Thr Pro Lys Thr Ser Ala Thr Thr Tyr Ser Leu Thr Gly
85              45                  50                  55
87 GAT GTC TTC TTT TAC GAG CCT GGA AAA GGC ACT CCC TTA TCT GAC AGT     423
88 Asp Val Phe Phe Tyr Glu Pro Gly Lys Gly Thr Pro Leu Ser Asp Ser
89          60                  65                  70
91 TGT TTT AAG CAA ACC ACG GAC AAT CTT ACC TTC TTG GGG AAC GGT CAT     471
92 Cys Phe Lys Gln Thr Thr Asp Asn Leu Thr Phe Leu Gly Asn Gly His
93      75                  80                  85
95 AGC TTA ACG TTT GGC TTT ATA GAT GCT GGC ACT CAT GCA GGT GCT GCT     519
96 Ser Leu Thr Phe Gly Phe Ile Asp Ala Gly Thr His Ala Gly Ala Ala
97 90                  95                  100                 105
99 GCA TCT ACA ACA GCA AAT AAG AAT CTT ACC TTC TCA GGG TTT TCC TTA     567
100 Ala Ser Thr Thr Ala Asn Lys Asn Leu Thr Phe Ser Gly Phe Ser Leu
101                 110                 115                 120
103 CTG AGT TTT GAT TCC TCT CCT AGC ACA ACG GTT ACT ACA GGT CAG GGA    615
104 Leu Ser Phe Asp Ser Ser Pro Ser Thr Thr Val Thr Thr Gly Gln Gly
105                 125                 130                 135
107 ACG CTT TCC TCA GCA GGA GGC GTA AAT TTA GAA AAT ATT CGT AAA CTT    663
108 Thr Leu Ser Ser Ala Gly Gly Val Asn Leu Glu Asn Ile Arg Lys Leu
109             140                 145                 150
111 GTA GTT GCT GGG AAT TTT TCT ACT GCA GAT GGT GGA GCT ATC AAA GGA    711
112 Val Val Ala Gly Asn Phe Ser Thr Ala Asp Gly Gly Ala Ile Lys Gly
113     155                 160                 165
117 GCG TCT TTC CTT TTA ACT GGC ACT TCT GGA GAT GCT CTT TTT AGT AAC    759
118 Ala Ser Phe Leu Leu Thr Gly Thr Ser Gly Asp Ala Leu Phe Ser Asn
119 170                 175                 180                 185
121 AAC TCT TCA TCA ACA AAG GGA GGA GCA ATT GCT ACT ACA GCA GGC GCT    807
122 Asn Ser Ser Ser Thr Lys Gly Gly Ala Ile Ala Thr Thr Ala Gly Ala
123                 190                 195                 200
125 CGC ATA GCA AAT AAC ACA GGT TAT GTT AGA TTC CTA TCT AAC ATA GCG    855
126 Arg Ile Ala Asn Asn Thr Gly Tyr Val Arg Phe Leu Ser Asn Ile Ala
127             205                 210                 215
129 TCT ACG TCA GGA GGC GCT ATC GAT GAT GAA GGC ACG TCG ATA CTA TCG    903
130 Ser Thr Ser Gly Gly Ala Ile Asp Asp Glu Gly Thr Ser Ile Leu Ser
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RAW SEQUENCE LISTING   DATE: 07/02/2001
PATENT APPLICATION: US/09/446,677B   TIME: 14:51:17

Input Set : **A:\BIRKELUND1.txt**
Output Set: **N:\CRF3\07022001\I446677B.raw**

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131           220                  225                  230
133 AAC AAC AAA TTT CTA TAT TTT GAA GGG AAT GCA GCG AAA ACT ACT GGC    951
134 Asn Asn Lys Phe Leu Tyr Phe Glu Gly Asn Ala Ala Lys Thr Thr Gly
135      235                  240                  245
137 GGT GCG ATC TGC AAC ACC AAG GCG AGT GGA TCT CCT GAA CTG ATA ATC    999
138 Gly Ala Ile Cys Asn Thr Lys Ala Ser Gly Ser Pro Glu Leu Ile Ile
139 250                  255                  260                 265
141 TCT AAC AAT AAG ACT CTG ATC TTT GCT TCA AAC GTA GCA GAA ACA AGC   1047
142 Ser Asn Asn Lys Thr Leu Ile Phe Ala Ser Asn Val Ala Glu Thr Ser
143           270                  275                  280
145 GGT GGC GCC ATC CAT GCT AAA AAG CTA GCC CTT TCC TCT GGA GGC TTT   1095
146 Gly Gly Ala Ile His Ala Lys Lys Leu Ala Leu Ser Ser Gly Gly Phe
147           285                  290                  295
149 ACA GAG TTT CTA CGA AAT AAT GTC TCA TCA GCA ACT CCT AAG GGG GGT   1143
150 Thr Glu Phe Leu Arg Asn Asn Val Ser Ser Ala Thr Pro Lys Gly Gly
151           300                  305                  310
153 GCT ATC AGC ATC GAT GCC TCA GGA GAG CTC AGT CTT TCT GCA GAG ACA   1191
154 Ala Ile Ser Ile Asp Ala Ser Gly Glu Leu Ser Leu Ser Ala Glu Thr
155           315                  320                  325
157 GGA AAC ATT ACC TTT GTA AGA AAT ACC CTT ACA ACA ACC GGA AGT ACC   1239
158 Gly Asn Ile Thr Phe Val Arg Asn Thr Leu Thr Thr Thr Gly Ser Thr
159 330                  335                  340                 345
161 GAT ACT CCT AAA CGT AAT GCG ATC AAC ATA GGA AGT AAC GGG AAA TTC   1287
162 Asp Thr Pro Lys Arg Asn Ala Ile Asn Ile Gly Ser Asn Gly Lys Phe
163           350                  355                  360
165 ACG GAA TTA CGG GCT GCT AAA AAT CAT ACA ATT TTC TTC TAT GAT CCC   1335
166 Thr Glu Leu Arg Ala Ala Lys Asn His Thr Ile Phe Phe Tyr Asp Pro
167           365                  370                  375
169 ATC ACT TCA GAA GGA ACC TCA TCA GAC GTA TTG AAG ATA AAT AAC GGC   1383
170 Ile Thr Ser Glu Gly Thr Ser Ser Asp Val Leu Lys Ile Asn Asn Gly
171           380                  385                  390
175 TCT GCG GGA GCT CTC AAT CCA TAT CAA GGA ACG ATT CTA TTT TCT GGA   1431
176 Ser Ala Gly Ala Leu Asn Pro Tyr Gln Gly Thr Ile Leu Phe Ser Gly
177           395                  400                  405
179 GAA ACC CTA ACA GCA GAT GAA CTT AAA GTT GCT GAC AAT TTA AAA TCT   1479
180 Glu Thr Leu Thr Ala Asp Glu Leu Lys Val Ala Asp Asn Leu Lys Ser
181 410                  415                  420                 425
183 TCA TTC ACG CAG CCA GTC TCC CTA TCC GGA GGA AAG TTA TTG CTA CAA   1527
184 Ser Phe Thr Gln Pro Val Ser Leu Ser Gly Gly Lys Leu Leu Leu Gln
185           430                  435                  440
187 AAG GGA GTC ACT TTA GAG AGC ACG AGC TTC TCT CAA GAG GCC GGT TCT   1575
188 Lys Gly Val Thr Leu Glu Ser Thr Ser Phe Ser Gln Glu Ala Gly Ser
189           445                  450                  455
191 CTC CTC GGC ATG GAT TCA GGA ACG ACA TTA TCA ACT ACA GCT GGG AGT   1623
192 Leu Leu Gly Met Asp Ser Gly Thr Thr Leu Ser Thr Thr Ala Gly Ser
193           460                  465                  470
195 ATT ACA ATC ACG AAC CTA GGA ATC AAT GTT GAC TCC TTA GGT CTT AAG   1671
196 Ile Thr Ile Thr Asn Leu Gly Ile Asn Val Asp Ser Leu Gly Leu Lys
197           475                  480                  485
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RAW SEQUENCE LISTING   DATE: 07/02/2001
PATENT APPLICATION: US/09/446,677B   TIME: 14:51:17

Input Set : A:\BIRKELUND1.txt
Output Set: N:\CRF3\07022001\I446677B.raw

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199 CAG CCC GTC AGC CTA ACA GCA AAA GGT GCT TCA AAT AAA GTG ATC GTA    1719
200 Gln Pro Val Ser Leu Thr Ala Lys Gly Ala Ser Asn Lys Val Ile Val
201 490                 495                 500                 505
203 TCT GGG AAG CTC AAC CTG ATT GAT ATT GAA GGG AAC ATT TAT GAA AGT    1767
204 Ser Gly Lys Leu Asn Leu Ile Asp Ile Glu Gly Asn Ile Tyr Glu Ser
205                     510                 515·                520
207 CAT ATG TTC AGC CAT GAC CAG CTC TTC TCT CTA TTA AAA ATC ACG GTT    1815
208 His Met Phe Ser His Asp Gln Leu Phe Ser Leu Leu Lys Ile Thr Val
209                     525                 530                 535
211 GAT GCT GAT GTT GAT ACT AAC GTT GAC ATC AGC AGC CTT ATC CCT GTT    1863
212 Asp Ala Asp Val Asp Thr Asn Val Asp Ile Ser Ser Leu Ile Pro Val
213             540                 545                 550
215 CCT GCT GAG GAT CCT AAT TCA GAA TAC GGA TTC CAA GGA CAA TGG AAT    1911
216 Pro Ala Glu Asp Pro Asn Ser Glu Tyr Gly Phe Gln Gly Gln Trp Asn
217     555 ·               560                 565
219 GTT AAT TGG ACT ACG GAT ACA GCT ACA AAT ACA AAA GAG GCC ACG GCA    1959
220 Val Asn Trp Thr Thr Asp Thr Ala Thr Asn Thr Lys Glu Ala Thr Ala
221 570                 575                 580                 585
223 ACT TGG ACC AAA ACA GGA TTT GTT CCC AGC CCC GAA AGA AAA TCT GCG    2007
224 Thr Trp Thr Lys Thr Gly Phe Val Pro Ser Pro Glu Arg Lys Ser Ala
225                 590                 595                 600
227 TTA GTA TGC AAT ACC CTA TGG GGA GTC TTT ACT GAC ATT CGC TCT CTG    2055·
228 Leu Val Cys Asn Thr Leu Trp Gly Val Phe Thr Asp Ile Arg Ser Leu
229             605                 610                 615
233 CAA CAG CTT GTA GAG ATC GGC GCA ACT GGT ATG GAA CAC AAA CAA GGT    2103
234 Gln Gln Leu Val Glu Ile Gly Ala Thr Gly Met Glu His Lys Gln Gly
235         620                 625                 630
237 TTC TGG GTT TCC TCC ATG ACG AAC TTC CTG CAT AAG ACT GGA GAT GAA    2151
238 Phe Trp Val Ser Ser Met Thr Asn Phe Leu His Lys Thr Gly Asp Glu
239     635                 640                 645
241 AAT CGC AAA GGC TTC CGT CAT ACC TCT GGA GGC TAC GTC ATC GGT GGA    2199
242 Asn Arg Lys Gly Phe Arg His Thr Ser Gly Gly Tyr Val Ile Gly Gly
243 650                 655                 660                 665
245 AGT GCT CAC ACT CCT AAA GAC GAC CTA TTT ACC TTT GCG TTC TGC CAT    2247
246 Ser Ala His Thr Pro Lys Asp Asp Leu Phe Thr Phe Ala Phe Cys His
247                 670                 675                 680
249 CTC TTT GCT AGA GAC AAA GAT TGT TTT ATC GCT CAC AAC AAC TCT AGA    2295
250 Leu Phe Ala Arg Asp Lys Asp Cys Phe Ile Ala His Asn Asn Ser Arg
251             685                 690                 695
253 ACC TAC GGT GGA ACT TTA TTC TTC AAG CAC TCT CAT ACC CTA CAA CCC    2343
254 Thr Tyr Gly Gly Thr Leu Phe Phe Lys His Ser His Thr Leu Gln Pro
255             700                 705                 710
257 CAA AAC TAT TTG AGA TTA GGA AGA GCA AAG TTT TCT GAA TCA GCT ATA    2391
258 Gln Asn Tyr Leu Arg Leu Gly Arg Ala Lys Phe Ser Glu Ser Ala Ile
259     715                 720                 725
261 GAA AAA TTC CCT AGG GAA ATT CCC CTA GCC TTG GAT GTC CAA GTT TCG    2439
262 Glu Lys Phe Pro Arg Glu Ile Pro Leu Ala Leu Asp Val Gln Val Ser
263 730                 735                 740                 745
265 TTC AGC CAT TCA GAC AAC CGT ATG GAA ACG CAC TAT ACC TCA TTG CCA    2487
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RAW SEQUENCE LISTING   DATE: 07/02/2001
PATENT APPLICATION: US/09/446,677B   TIME: 14:51:17

Input Set : A:\BIRKELUND1.txt
Output Set: N:\CRF3\07022001\I446677B.raw

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266 Phe Ser His Ser Asp Asn Arg Met Glu Thr His Tyr Thr Ser Leu Pro
267             750                 755             760
269 GAA TCC GAA GGT TCT TGG AGC AAC GAG TGT ATA GCT GGT GGT ATC GGC    2535
270 Glu Ser Glu Gly Ser Trp Ser Asn Glu Cys Ile Ala Gly Gly Ile Gly
271             765                 770             775
273 CTA GAC CTT CCT TTT GTT CTT TCC AAC CCA CAT CCT CTT TTC AAG ACC    2583
274 Leu Asp Leu Pro Phe Val Leu Ser Asn Pro His Pro Leu Phe Lys Thr
275             780                 785             790
277 TTC ATT CCA CAG ATG AAA GTC GAA ATG GTT TAT GTA TCA CAA AAT AGC    2631
278 Phe Ile Pro Gln Met Lys Val Glu Met Val Tyr Val Ser Gln Asn Ser
279     795             800             805
281 TTC TTC GAA AGC TCT AGT GAT GGC CGT GGT TTT AGT ATT GGA AGG CTG    2679
282 Phe Phe Glu Ser Ser Ser Asp Gly Arg Gly Phe Ser Ile Gly Arg Leu
283 810             815             820             825
285 CTT AAC CTC TCG ATT CCT GTG GGT GCG AAA TTC GTG CAG GGG GAT ATC    2727
286 Leu Asn Leu Ser Ile Pro Val Gly Ala Lys Phe Val Gln Gly Asp Ile
287             830             835             840
291 GGA GAT TCC TAC ACC TAT GAT CTC TCA GGA TTC TTT GTT TCC GAT GTC    2775
292 Gly Asp Ser Tyr Thr Tyr Asp Leu Ser Gly Phe Phe Val Ser Asp Val
293             845             850             855
295 TAT CGT AAC AAT CCC CAA TCT ACA GCG ACT CTT GTG ATG AGC CCA GAC    2823
296 Tyr Arg Asn Asn Pro Gln Ser Thr Ala Thr Leu Val Met Ser Pro Asp
297             860             865             870
299 TCT TGG AAA ATT CGC GGT GGC AAT CTT TCA AGA CAG GCA TTT TTA CTG    2871
300 Ser Trp Lys Ile Arg Gly Gly Asn Leu Ser Arg Gln Ala Phe Leu Leu
301     875             880             885
303 AGG GGT AGC AAC AAC TAC GTC TAC AAC TCC AAT TGT GAG CTC TTC GGA    2919
304 Arg Gly Ser Asn Asn Tyr Val Tyr Asn Ser Asn Cys Glu Leu Phe Gly
305 890             895             900             905
307 CAT TAC GCT ATG GAA CTC CGT GGA TCT TCA AGG AAC TAC AAT GTA GAT    2967
308 His Tyr Ala Met Glu Leu Arg Gly Ser Ser Arg Asn Tyr Asn Val Asp
309             910             915             920
311 GTT GGT ACC AAA CTC CGA TTC TAGATTGCTA AAACTCCCTA GTTCTTCTAG GGAG   3022
312 Val Gly Thr Lys Leu Arg Phe
313             925
315 TTTTCTCATA CTTTTAGGGA AATATTTGCT ATAGGGAATG CTTTCCTTGC AAACTGTAAA   3082
316 AAATAACATT TGTCCCTCTT CAAAAAAGAT TTCTTTTAAT AATTTCTAGT TATAATTTTA   3142
317 TTTTAAAAAC AGTTAAATAA TTAATAGACA ATAATCTATT CTTATTGACT TCTTTTTT     3200
319 (2) INFORMATION FOR SEQ ID NO: 2:
321       (i) SEQUENCE CHARACTERISTICS:
322             (A) LENGTH: 928 amino acids
323             (B) TYPE: amino acid
324             (C) STRANDEDNESS: single
325             (D) TOPOLOGY: linear
327      (ii) MOLECULE TYPE: protein
329       (v) FRAGMENT TYPE: internal
331      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
333 Met Lys Thr Ser Ile Pro Trp Val Leu Val Ser Ser Val Leu Ala Phe
334  1               5               10              15
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<pre>
              VERIFICATION SUMMARY   DATE: 07/02/2001
              PATENT APPLICATION: US/09/446,677B   TIME: 14:51:19

              Input Set : A:\BIRKELUND1.txt
              Output Set: N:\CRF3\07022001\I446677B.raw

L:31 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:32 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:38 M:220 C: Keyword misspelled or invalid format, [(vii) PRIOR APPLICATION DATA:]
L:2475 M:220 C: Keyword misspelled or invalid format, [(ii) MOLECULE TYPE:]
</pre>